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Mail from MIT-MC revd at 18-APR-76 10:18-PST  
Date: 18 APR 1976 1129-EST  
From: JOSEPH at MIT-MC  
To: Lederberg at SUMEX-AIM

Dear Joshua:

You must know that John McCarthy has placed your N.Y.T. review of my book in his "Electric Magazine". There exists a standing invitation to anyone who can gain access to the ARPA net to browse through that magazine. I found your review there. (After I discovered it, a number of people at M.I.T. told me that they had seen it weeks earlier.)

Below is my response. It is what I intend to send to the N.Y.T. after your review appears there. I think you should be the one to decide whether it is to be inserted in JMC's Magazine before then. I would like to see it there. I fear the Times may not like it to be debated before it appears in their pages, however.

I did not, in my response, touch on a point about which I feel strongly: this is your twice stated observation that I am debating positions which zealots held 20 years ago. You say I quote from their writings of 20 years ago, for example. An analysis of the references that appear at the end of the book refutes that. The major works I quote are Simon's "Sciences of the Artificial" (1969), Newell and Simon's "Human Problem Solving" (1972), Colby and Schank's "Computer Models of Thought and Language" (1973), and other such. Forrester's testimony before the U.S. Congress was given in 1970 and is still being circulated by him today. I could go on. Remember also that I was writing in 1973 and early 1974. You can't expect many quotes from 1976. As for the zealots of 20 years ago: Colby is a professor of psychiatry at UCLA, Minsky is Donner Professor of Science at M.I.T., McCarthy is Professor of CS and head of the AI lab at Stanford, Newell is University Professor at CMU, and so on. The impression you create that these "zealots of 20 years ago" have folded their tents and silently slipped away is contradicted by the fact that these very people constitute (for better or worse) the principle leadership of AI today. My response to your review does not mention this, to me, very sensitive point, because I deeply hope and believe you will elide it from the final version of your review.

On the whole, I am flattered that you took the trouble to read the book and comment on it.

Thanks for your help in all things,  
Joe

A REPLY TO JOSHUA LEDERBERG  
by  
Joseph Weizenbaum

The last chapter of my book is entitled "AGAINST THE EMERGENCY OF INSTRUMENTAL REASON". A philosophy, a way of thinking, or, for that

matter, a nation, is imperialistic when it attempts to dominate a domain larger than that to which it is legitimately entitled. I do not "categorically reject instrumental reason in its application to human affairs" as Joshua Lederberg would have it. I reject the systematically exclusive use of instrumental reason in affairs that call also for reason in other forms. I reject, as I know Joshua Lederberg does, the kind of rationality that views individual human beings and human societies as mere instruments to be used as means toward the user's ends.

I try to say in my book that the failure to distinguish between imperialistic instrumental reason and instrumental reason properly constrained leads to an equation of rationality with logicity. Once that distinction has been erased, it is no longer possible to fault the thinking of those statesmen who saw in their nation a "Jewish Problem" and quite rationally concluded that a logical way to "solve" it would be to murder the Jewish population of Europe. Nor could one then fault those other statesmen who, in order to free their ally's countryside of guerrillas, gave their airmen license to kill every living thing in it. A perfectly rational solution.

Joshua Lederberg believes that "those who deify the machines deserve the human sacrifices that may result from neglecting the human responsibility for moral decisions." But he fears power in the hands of "irrational" man. I say that the imperialistic use of instrumental reason is a deification of mechanistic thinking and is a neglect of human responsibility for moral decisions. No one can say that those who practice it are "irrational". To the contrary, their madness consists in that they carry rationality to absurd extremes. And such madness is perhaps even more to be feared than is irrationality. Perhaps there is a perverse moral calculus within which Hitler and his statesmen did deserve the sacrifice of the Six-million. But did the Six-million deserve to be slaughtered?

I touched on the scope of the responsibility of modern man in my book. I wrote:

"In biblical times few people could do anything that was likely to affect others beyond the boundaries of their own living spaces. Man's science and technology have altered this circumstance drastically. Not only can modern man's actions affect the whole planet that is his habitat, but they can determine the future of the

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entire human species. It follows, therefore that man, particularly men the scientist and engineer, has responsibilities that transcend his immediate situation, that in fact extend directly to future generations. These responsibilities are especially grave since future generations cannot advocate their own cause now. We are all their trustees."

It is simply not enough that we here and now predicate what we do on the knowledge that we, the actors, deserve the consequences of our actions.

Finally, Joshua Lederberg agrees with me that even the most intelligent computer programs do not necessarily lead to understanding, that they constitute "experiments" to be "validated only by experience." Readers may share my unease over the prospect -- and in many cases it is already more than mere prospect -- that computer programs (and scientists and statesmen) will initiate large scale "experiments" from whose experience we can learn only too late, and then only that we ought never have abdicated our responsibilities to them. The victims of hydrogen bombs launched by a computer controlled anti-ballistic missile system (ABM) would, of course, have no regrets.

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